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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,811	10/01/2003	Kohji Kotani	WATK : 260	8789
6160	7590	03/24/2005	EXAMINER	
PARKHURST & WENDEL, L.L.P. 1421 PRINCE STREET SUITE 210 ALEXANDRIA, VA 22314-2805			MORILLO, JANEL COMBS	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/674,811	Applicant(s) KOTANI ET AL.	
	Examiner Janelle Combs-Morillo	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1 and 9-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 9-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Objections*

1. Claims 15 and 16 are objected to because of the following informalities: it is unclear if the limitation “a content of said unavoidable contained impurities is not more than 0.1 wt%” (instant claim 15) refers to a total amount of impurities present, or a maximum of each impurity element present. Claim 16 contains a similar limitation. Appropriate correction/explanation is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Schwelling et al (US 4,525,326).

Schwelling teaches examples of Al-Mg-Si alloys that fall within the presently claimed alloying ranges (see Table at column 2, ex. 3H, 4H, 5H1, 5H2). For instance, ex. 4H consists of (in weight%): 1.00% Si, 0.77% Mg, 0.20% Fe, 0.05% Cu, 0.90% Mn, which falls within the composition ranges in independent claim 1. Additionally, Schwelling teaches that said alloy can be hot formed by extrusion, rolling, or forging (column 1 lines 11-12, column 2 line 36). Iron falls within the limitation of “unavoidably contained impurities”.

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4. Claims 1 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by “Aluminum and Aluminum Alloys” p 22-23, 62, 72-73.

“Aluminum and Aluminum Alloys” teaches a number of Al-Mg-Si 6xxx series aluminum alloys that substantially overlap or touch the boundary of the presently claimed alloying ranges of Mg, Si, Cu, Mn, Cr, and Ti, including 6151, 6351, 6066, as well as 6007, 6009, 6010, 6111, 6012, X6013, 6014, 6261, 6070, 6081, and 6082 (see “Aluminum and Aluminum Alloys” p 22-23, Table 2). The Fe content taught by the prior art falls within the limitation of “unavoidably contained impurities”.

Because “Aluminum and Aluminum Alloys” teaches (narrow) ranges that overlap the instant ranges “with sufficient specificity” (see MPEP 2131.03), it is held that “Aluminum and Aluminum Alloys” anticipates the instant claims.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 9-11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwelling et al (US 4,525,326). Schwelling is discussed in paragraphs above.

Concerning claims 9-11, Schwelling does not mention forming said Al-Mg-Si alloy into a vehicular suspension part, a frame for a vehicle, or a part for an engine. However, it would have been obvious to one of ordinary skill in the art to make a structural part, such as a

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suspension part for a vehicle, etc., out of the Al-Mg-Si alloy taught by Schwellingner, because Schwellingner teaches that said Al-Mg-Si alloy has excellent mechanical strength (column 1 lines 55-58).

Concerning the process steps of product by process claims 9-11 and 17, Schwellingner teaches that said alloy can be hot formed by extrusion, rolling, or forging (column 1 lines 11-12, column 2 line 36). Schwellingner does not mention the presently claimed step of a) casting said alloy prior to forging, or b) the instant rough forging followed by finish forging and clipping flash. However concerning items a) and b), it is well settled that a product-by-process claim defines a product, and that when the prior art discloses a product substantially the same as that being claimed, differing only in the manner by which it is made, the burden falls to applicant to show that any process steps associated therewith result in a product materially different from that disclosed in the prior art. See MPEP 2113, *In re Brown* (173 USPQ 685) and *In re Fessman* (180 USPQ 524) *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Because the Al-Mg-Si alloy product taught by Schwellingner falls within the presently claimed alloying ranges, and because applicant has not shown that the instant product by process is materially different than product by the prior art, it is held that Schwellingner has created a prima facie case of obviousness of the presently claimed invention.

7. Claims 9-14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over “Aluminum and Aluminum Alloys” p 22-23, 62, 72-73. “Aluminum and Aluminum Alloys” is discussed in paragraphs above.

“Aluminum and Aluminum Alloys” teaches alloys 6066, 6151, and 6351 can be worked by forging (p. 62), and said alloys are typically used as: forgings for welded structures, intricate

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forgings for auto parts, and heavy duty structures, respectively. It would have been obvious to one of ordinary skill in the art to make a structural part, such as a suspension part for a vehicle, etc., out of the Al-Mg-Si alloys taught by “Aluminum and Aluminum Alloys”, because “Aluminum and Aluminum Alloys” teaches that said Al-Mg-Si alloys are useful for forging into structural auto parts, and have excellent mechanical strength (Table 9, p 72-73).

Concerning the process steps of product by process claims 9-11 and 17, see discussion of product by process claims above. Because the Al-Mg-Si alloy product taught by “Aluminum and Aluminum Alloys” falls within the presently claimed alloying ranges, and because applicant has not shown that the instant product by process is materially different than product by the prior art, it is held that “Aluminum and Aluminum Alloys” has created a prima facie case of obviousness of the presently claimed invention.

Concerning the mechanical properties listed in claims 12-14, “Aluminum and Aluminum Alloys” teaches in Table 9 p. 73 that 6066-T6 exhibits a UTS = 395MPa, YS = 360MPa, elongation=12%, which falls within the presently claimed mechanical property ranges of UTS, YS, and elongation. Additionally, the mechanical property values listed for 6351-T6 are close approximations of the presently claimed minimums of UTS, YS, and elongation.

8. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwelling et al (US 4,525,326) and “Aluminum and Aluminum Alloys” p 684 (as a teaching reference). Schwelling is discussed in paragraphs above.

Schwelling does not teach the mechanical properties exhibited by AA6082, AA6081, or AA6009. However, “Aluminum and Aluminum Alloys” teaches on page 684 Table 80 that 6009-

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T6 exhibits a UTS = 345MPa, YS = 324MPa, elongation=12%, which falls within the presently claimed mechanical property ranges of UTS, YS, and elongation.

Because the teaching reference of "Aluminum and Aluminum Alloys" teaches that 6009-T6 exhibits mechanical properties within the presently claimed limits, it is held that Schwelling combined with "Aluminum and Aluminum Alloys" has created a prima facie case of obviousness of the presently claimed invention.

9. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Aluminum and Aluminum Alloys" p 22-23, 62, 72-73. "Aluminum and Aluminum Alloys" is discussed in paragraphs above.

As stated above, Fe is considered an impurity of aluminum (see also discussion below). The Fe content taught by "Aluminum and Aluminum Alloys" for said Al-Mg-Si alloy(s) also overlaps the presently claimed maximums (i.e. the Fe content of 6082 or 6066 is 0.5% max., which broadly overlaps a maximum of 0.1% Fe as well as 0.05% Fe). Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility. Applicant has not shown criticality of the presently claimed Fe range.

In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Applicants can rebut a prima facie case of obviousness based on overlapping ranges by showing the

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criticality of the claimed range (See MPEP §2144.03). "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See also MPEP §716.02 - §716.02(g) for a discussion of criticality and unexpected results. Said evidence must be commensurate in scope with the claimed invention. See, e.g., In re Kulling, 897 F.2d 1147, 1149, 14 USPQ2d 1056, 1058 (Fed. Cir. 1990); In re Grasselli, 713 F.2d 731, 743, 218 USPQ 769, 777 (Fed. Cir. 1983).

### ***Response to Amendment/Arguments***

10. In the response filed on January 5, 2005 applicant amended claims 1, 9, 10, 12-14, and added new claims 15-17. Claims 1 and 9-17 are pending. The examiner agrees that no new matter has been added.

Applicant's argument that the present invention is allowable over the prior art of record because Fe is excluded from the instant alloy composition, because the instant alloy claims have 'closed' type claim language of, has not been found persuasive. Fe is known as a common impurity in aluminum alloys, and therefore falls within the instant claim limitation "unavoidably contained impurities". This is further supported by "Aluminum and Aluminum Alloys" p 43. As can be seen in Table 2 of "Aluminum and Aluminum Alloys" p 22-23, the Fe content in aluminum alloys is generally held to a maximum of  $\leq 0.15$  to  $\leq 0.50$ .



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Concerning the particular ranges in claims 15 and 16, said impurity maximums overlap the Fe content taught by the prior art, and applicant has not shown criticality with respect to the instant Fe range. Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCM

March 18, 2005

  
GEORGE WYSZOMIERSKI  
PRIMARY EXAMINER  
GROUP 1200